UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,668	12/29/2000	Ali N. Saleh	CIS0008P4US	7626

33031 7590 06/28/2007		EXAMINER
CAMPBELL STEPHENSON ASCOLESE, LLP		NGUYEN, HANH N
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BLDG. 4, SUITE 201	ART UNIT	PAPER NUMBER
AUSTIN, TX 78759	2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Office Action Summary	**Application No.**	**Applicant(s)**
		09/750,668	SALEH ET AL.
		Examiner	**Art Unit**
		Hanh Nguyen	2616

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _RCE filed 6/18/07_.

2a)☐ This action is **FINAL.** 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-152_ is/are pending in the application.

4a) Of the above claim(s) _48-61, 64-66, 68-72, 75-77, 79, 80 and 148_ is/are withdrawn from consideration.

5)☒ Claim(s) _1-47, 62, 63, 67, 73, 74, 78, 146, 147 and 151_ is/are allowed.

6)☒ Claim(s) _113-145, 150 and 152-166_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to the RCE

The RCE filed on 6/18/07 has been entered. Claims 48-61, 64-66, 68-72, 75-77, 79, 80

and 148 are withdrawn. Claims 1-47, 62, 63, 67, 73, 74, 78, 113-147, 150-166 are now pending.

Claimass 81-112, 149 are canceled.

Claim Objections

Claims 62, 67, 73, 78 are objected to because of the following informalities: claim 62

depends on claim 61 which has been withdrawn; claim 67 depends on claim 61 which has been

withdrawn; claim 73 depends on claim 72 which has been withdrawn; claim 78 depends on claim

72 which has been widthdrawn;

Examiner assumes that claims 62, 67, 59, 73 and 78 now depend on their parent claim 47.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
subject matter which the applicant regards as his invention.

Regarding claims 113, 160, the word "means" is preceded by the word(s) indicated in

lines "2, 4, 7, 10, 12, 14, 16 " in an attempt to use a "means" clause to recite a claim element as a

means for performing a specified function. However, since no function is specified by the

word(s) preceding "means," it is impossible to determine the equivalents of the element, as

required by 35 U.S.C. 112, sixth paragraph. See *Ex parte Klumb*, 159 USPQ 694 (Bd. App.

1967).

Claims 114-145, 150, 152, 161-166 are rejected beause they depend on claims 113 and

160 respectively.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

Claims 113-145, 150, 152-166 are rejected under 35 USC 103(a) as being unpatentable

over Bentall et al. (US pat. 6,282,170 B1) in view of Croslin et al. et al. (US pat. 5,737,319).

In claims 113, 160, Bentall et al. discloses a method for restoring a virtual path (select a

restoration route) in an optical network (see abstract and col.6, lines 35-37; col.3, lines 25-30),

the method comprising broadcasting a plurality of resource request packets to a plurality of

nodes in the optical network (fig.3, step 100; col.5, lines 48-52; sending messages along

alternate routes to determine capacity of each link of the alternate routes through a network);

dynamically identifying a plurality of nodes with resources, as a result of said broadcasting,

necessary to support the virtual path (see fig.9, col.7, line 60 to col.8, line 25; in response to

receiving flood messages, chooser node assigns spare capacity on virtual paths and

acknowledges each virtual path with sufficient capacity); identifying an intermediate node

without /lacking resources necessary to support the virtual path (see fig.9, step 144, col.8, lines

20-24; by updating database of alternative routes at the chooser node, the chooser node identifies

virtual paths that lack of spare capacity on the alternate routes. It is inherent that once the VP

lack of capacity, nodes located on the VP also lack of capacity; see further in col.9, lines 30-35);

and resource for the VP is rejected dynamically determining an alternate physical path

comprising ones of the nodes with resources (fig.4, steps 113 & 114; select one of the

alternative routes and allocate capacity on this selected alternative route; see col.5, line 62 to

col.6, line 5); configuring the alternate physical path by establishing a communication

connection between the nodes with resources (fig.9; step 142; col.8, lines 15-18; a shortest route

with sufficient capacity is acknowledged to the sender); and restoring the virtual path by

provisioning the virtual path over said alternate physical path (see fig.11, col.9, lines 35-45;

sender re-routes thevirtual path along the selected route when the route acknowledgement is

received).

Even though Bentall et al. does not explicitly disclose dynamically determining an

alternate physical path; but Bental discloses the nodes are interrogated to gather information for

possible routes without having to preplan for preferred routes (see col.3, lines 8-15). In order to

show that dynamically determining an alternate phycal path is a well-known skill in the art,

Croslin disclose, in its Relate Art, col.1, lines 50-65 and col.2, lines 40-47, that if a transmission

segment suddenly become severed, dynamic network restoral application directs switching

elements to select one of alternate transmission segments to replace the severed one, wherein the

replaced transmission segment has enough resources to support the network transmission

without disconnecting (dynamically identify nodes and dynamically determining an alternate

path with sufficient resource). Therefore, it would have been obvious to one skilled in the art to

apply the dynammic network restoral application of Croslin et al. with the network restoral of

Bentall et al. so that network restoral is performed in real time and dynamically. The motivation

is to avoid the dependend of the limit preplanned routes and reduce the time delay.

In claims 151, 152, Bental et al. discloses ascertaining whether the intermediate node

without resources lacks a resource necessary to support the virtual path (with the discussion in

claim 1 and 113, chooser node updates its database to determine VPs that are lack of capacity).

In claim 114, Bentall et al. discloses detecting a failure in the virtual path (fig.4, step

110; col.5, lines 60-65).

In claim 115, Bentall et al. discloses the detection of the failure is done by

receiving a failure message packet (fig.9, step 140, receiving flood messages); dynamically

identifying nodes with resources comprises acknowledging the failure message (fig.9, step 142;

acknowledging shortest route for each path with sufficient capacity by sending message back to

sender. Note that route with sufficient capacity inherently includes nodes coupled therewith);

In claims 116 and 117, the limitations of these claims have been addressed in

claim 1.

In claims 118, 126 and 137, Bentall et al. discloses restoring the VP (the restoration

functions) is performed by the first node/intermediate node (fig.2; sender node 63), an

intermediate node (chooser node 64; fig.2). See col.6, lines 20-25.

In claims 119, 127 and 138, Bentall et al. discloses in claim 1 that a failure of a route

connecting two nodes results in a new selected alternate route inherently changes the failed port

associated with the failed route) and update the provisioning in the node data base (see fig.9,

step 143; col.8, lines 20-25). For further clarification, application is directed to fig.5, col.6, lines

10-55 which address the claimed limitations:

the failure is a local physical port port between an intermediate node and an adjacent

node; determining a different port of a link (see fig.5, col.6, lines 10-55; routing table in database

74 indicates which link is used by an appropriate VP); initiating a physical port switch request (

switching function 71 refers to routing table to pass communication between links); provisioning

the VP to the different physical port (reroute to alternative route would inherently switch to

another physical port).

In claims 135, 144, Bental et al. discloses if said intermediary node receives a valid

restore path request, updating path information in a node database (fig.9, step 143), allocating

resources requested for said virtual path (fig.9, step 142), and forwarding said restore path

request to all eligible adjacent nodes (fig.9, step 144).

In claims 35, 46, 136 and 145, Bental et al. discloses if the intermediary node receives an

invalid restore path request, responding with a negative acknowledpnent (fig.9, step 144; means

that a node uses all resources to restore a failed VP until all VPs are block. Inherently, when VPs

are block due to insufficient resources, a Negative acknowledgement should be received; see

col.8, lines 20-25).

In claims 120-125, 128, 129, 139 and 140, the limitations of these claims have been

addressed in claim 1 because as the original VP is failed, it is most likely that the alternative

routes is required with previous steps performed in indepedent claims 1, 47, 891 and 113. When

an alternative routes in Bental is setup with sufficient capacity, it is inherent that the alternative

routes has to be routed via different links having different ports (See col.8, lines 27-35; any new

VPs to be setup during the duration of the link failure would be rerouted to avoid the failed part).

Bental et al. discloses the alarm raised to commence restoration (see fig.8). It is a well-known

skill in to art to raise alarm periodically between a first time period , a second time period depend

on how bad the traffic conditions. Motivation would be prevent critical network failures.

In claims 131-134, 142 and 143, the limitations of these claims have been addressed in

claim 1.

In claim 150, with the limitations that have been discussed in claims 1 and 113, Bental et

al. further discloses receiving an allocation request at an intermediate node (see fig.10, step 149;

tandem node receiving flood message from sender); if said resource necessary to support said

virtual path is available on said intermediate node, allocating said resource necessary to support

said virtual path on said intermediate node (see fig.10, step 153; tandem nodes reserves spare

capacity for restoration process); forwarding said allocation request from said tandem node (see

fig.10, step 154, tandem node broadcasts message on all links) (see col.8, line 65 to col.9, line

27), and, if said resource necessary to support said virtual path is unavailable on said

intermediate node, returning a negative response from said intermediate node (see col.9, lines

30-35; if there is no capacity to be assigned, the tandem node will pass the message to the

chooser node to reflect that there is a lack of spare capacity).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United
States before the invention thereof by the applicant for patent, or on an international application by another who
has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention
thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999

(AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA

35 U.S.C. 102(e)).

Claim 153, 157-159 are rejected under 35 USC 102(e) as being anticipated by Callon et

al. (US pat. 5,854,899).

In claims 153, 158 and 159, examiner finds that the claimed "optical network" and

"restoring virtual path" in the preamble are not shown in the body of the claim. Therefore,

examiner does not consider the two elements. In addition, the claimed "preventing the resource

request packet from being forwarded" is broadly interpreted as "buffering the packet while new

VC is being determined"

Callon et al. discloses receiving a resource request packet at an intermediate node

wherein said resource request packet is configured for broadcast in said optical network (see

fig.9; steps 236 & 238, col.15, lines 35-40; finding new paths to destination due to existing

virtual circuit fails); dynamically determining whether said intermediate node has a resource

necessary to support said virtual path (fig.9, step 240; col.15, lines 40-50; analysing the

unreachable nodes to determine whether they had any reachable neighbors, and if so they are

considered as reachable nodes); if said intermediate node has said resource necessary to support

said virtual path, forwarding said resource request packet (see fig.4, steps 152&154; if there is

an existing efficient VC, packet is forwarded via the efficient VC; col.7, lines 50-67) and if said

intermediate node lacks said resource necessary to support said virtual path, preventing said

resource request packet from being forwarded (still in fig.4, steps 152 & 156; buffering the

packet).

Claims 157 and 158 has been disclosed in claim 153.

Claim 154-156 are rejected under 35 USC 103(a) as being unpatentable over Callon et

al. (US pat. 5,854,899) in view of Nederlof (US pat. 5,590,118).

Claims 154, 155, 156, Callon et al. does not disclose a negative acknowledgement

message is returned to an original node; the resource request packet comprises fields for

identifying at least one previously traversed link and and a hop count field. Nederlof discloses in

fig.1, col.9, line 50 to col.10, line 60; as a request message is transmitted from node SN1 on each

of its links L12, L14 and L15 for restoration when a link L19 connected to node SN1 is failed.

The request message comprises hop count field HOPCT (a hop count field); IDA field with

value of 1 indicating address of the switching node that detects the failure and transmits the

request (fields for identifying at least one previously traversed link). Nederlof further discloses a

RELREQIN message. The RELREQIN is transmitted from a switching node that receives a

request message to the switching node that orginates the request message to indicate that there is

no sufficient bandwidth on links connected to the switching node which received the request

packet (see col.12, lines 1-20; a negative acknowledgement message is returned to an original

node). Therefore, it would have been obvious to one ordinary skilled in the art to apply the

teachings of Nederlof into Callon et al. to notify the transmitting node that the resource in the

network is not available and the transmitting node needs to stop transmitting or reroute the

transmitting which will prevent the network from being congested. In addition, by looking at the

hop count the request packet, the best minimum hops VP can be determined.

Allowable Subject Matter

Claims 1 and 47 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's
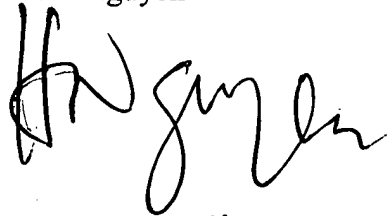
disclosure.

Phaltankar (US Pat. 6,714,549 B1).

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Hanh Nguyen whose telephone number is 571 272 3092. The

examiner can normally be reached on Monday-Thursday from 8:30 to 4:30. The examiner can

also be reached on alternate.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Lynn Field, can be reached on 571 272 2092. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hanh Nguyen

HANH NGUYEN
PRIMARY EXAMINER